

What is claimed is:

1 1. A filter comprising:
2 a filter element;
3 a core member in fluid communication with the filter element; and
4 a sleeve of a substantially fluid non-permeable material surrounding at least a
5 portion of one end of the filter element.

1 2. A filter of claim 1 wherein the sleeve surrounds substantially all of the filter element
2 and has perforations through a portion of the sleeve with the perforations in the sleeve toward one
3 end of the filter element.

1 3. A filter of claim 1 wherein the filter element is comprises a material selected from
2 pleated media and non-pleated media.

1 4. A filter of claim 3 wherein the non-pleated media is selected from the group
2 comprising wrapped media, solid media and granular media.

1 5. A filter element of claim 3 wherein the pleated media comprises a material selected
2 from the group comprising cellulose, polypropylene, polyethylene, polyester, fiberglass, cloth,
3 paper, nylon, orlon, teflon and combinations thereof.

1 6. A filter element of claim 4 wherein the wrapped media comprises a material selected
2 from the group comprising spunbonded material, cloth, polypropylene, polyester and mixtures
3 thereof.

1 7. A filter element of claim 1 further comprising a rigid support surrounding the filter
2 element inside the sleeve.

1 8. A filter element of claim 1 wherein the rigid support further comprises a mesh.

1 9. A filter element of claim 1 wherein the core member comprises a rigid perforated
2 tube.

1 10. A filter comprising:
2 a housing with a fluid inlet and a fluid outlet;
3 a filter element disposed within the housing;
4 said filter element having a central core in fluid communication with the filter
5 element;
6 the fluid outlet of the housing in communication with the central core; and
7 a sleeve of a substantially fluid non-permeable material surrounding at least a
8 portion of one end of the filter element preventing fluid flow into the filter
9 element.

1 11. A filter of claim 10 wherein the fluid inlet of the housing is towards the end of the
2 filter surrounded by the sleeve.

1 12. A filter of claim 10 wherein the sleeve member surrounds substantially all of the filter
2 element and has perforations through a portion of the sleeve with the perforations in the sleeve
3 toward one end of the filter element and providing fluid communication to the filter element.

1 13. A filter of claim 10 further comprising a sleeve member which is joined to an end cap
2 on which the filter element abuts and has a central cylindrical extension in fluid communication with
3 the central core and has a seal member on the central cylindrical extension and is coupled to the
4 outlet of the housing.

1 14. A filter of claim 13 wherein the seal member further comprises a gasket, said gasket
2 configured to direct the fluid from the central core through the outlet of the housing.

1 15. A filter of claim 10 wherein the filter element comprises a material selected from
2 pleated media and non-pleated media.

1 16. A filter of claim 15 wherein the non-pleated media is selected from the group
2 comprising wrapped media, solid media and granular media.

1 17. A filter element of claim 16 wherein the pleated media comprises a material selected
2 from the group comprising cellulose, polypropylene, polyethylene, polyester, fiberglass, cloth,
3 paper, nylon, orlon, teflon and combinations thereof.

1 18. A filter element of claim 16 wherein the wrapped media comprises a material selected
2 from the group comprising spunbonded material, cloth, fiberglass, polypropylene, polyester and
3 mixtures thereof.

1 19. A filter element of claim 10 further comprising a rigid support surrounding the filter
element inside the sleeve.

2 20. A filter element of claim 19 wherein the rigid support further comprises a mesh.

3 21. A filter element of claim 10 wherein the central core comprises a rigid perforated
tube.

4 22. A filter comprising:
5 a cylindrical filter element of pleated filter media;
6 a perforated central core extending through and surrounded by the pleated filter
media;
7 a sleeve of substantially fluid non-permeable material surrounding the outside of the
pleated filter media;

the sleeve having perforations through one of the top and the bottom of the sleeve capable of providing fluid communication to the filter element; a circular top end cap covering and securing the sleeve, the top of the filter element and the core; and a circular bottom end cap with a central cylindrical extension in fluid communication with the central core, said bottom cap securing and covering the sleeve and the bottom of the filter element.

23. A filter of claim 22 further comprising a seal member on the central cylindrical extension of the bottom end cap adaptable to be received in a filter housing to provide a substantially leak-proof connection.

24. A filter comprising:

- a filter element;
- a core member in the filter element extending a partial length of the filter element from one end of the filter element; and
- said core member composed of a substantially fluid non-permeable material.

25. A filter of claim 24 wherein the core member extends substantially the length of the filter element and has fluid communication to the core member toward one end of the filter element.

1 26. A filter of claim 24 wherein the filter element comprises a material selected from
2 pleated media and non-pleated media.

1 27. A filter of claim 26 wherein the non-pleated media is selected from the group
2 comprising wrapped media, solid media and granular media.

1 28. A filter element of claim 26 wherein the pleated media comprises a material selected
2 from the group comprising cellulose, polypropylene, polyethylene, polyester, fiberglass, cloth,
3 paper, nylon, orlon, teflon and combinations thereof.

1 29. A filter element of claim 27 wherein the wrapped media comprises a material selected
2 from the group comprising spunbonded material and cloth.

1 30. A filter element of claim 24 further comprising a rigid support surrounding the filter
2 element which allows for fluid flow into the filter element.

1 31. A filter element of claim 30 wherein the rigid support further comprises a mesh.

1 32. A filter element of claim 24 wherein the core member comprises a rigid member.

1 33. A filter element of claim 32 wherein the central core is a rigid perforated cylindrical
2 member.

1 34. A filter comprising:
2 a housing with a fluid inlet;
3 a filter element disposed within the housing;
4 said filter element having a central core with a fluid non-permeable portion toward
5 one end of the filter and the central core in fluid communication with the
6 filter element on the other end of the filter;
7 said housing having a fluid inlet in communication with the central core; and
8 said housing having a fluid outlet.

1 35. A filter of claim 34 wherein the central core extends the length of the filter and has
2 perforations through a portion of the central core toward one end of the filter element.

1 36. A filter of claim 34 wherein the central core is joined to an end cap on which the filter
2 element abuts and which end cap has a central cylindrical extension in fluid communication with
3 the central core and has a seal member on the outside of the central cylindrical extension which is
4 coupled to the inside of the inlet of the housing.

1 37. A filter of claim 36 wherein the seal member further comprises a gasket, said gasket
2 configured to direct the fluid into the filter element.

1 38. A filter of claim 34 wherein the filter element comprises a material selected from
2 pleated media and non-pleated media.

1 39. A filter of claim 38 wherein the non-pleated media is selected from the group
2 comprising wrapped media, solid media and granular media.

1 40. A filter element of claim 38 wherein the pleated media comprises a material selected
2 from the group comprising cellulose, polypropylene, polyethylene, polyester, fiberglass, cloth,
3 paper, nylon, orlon, teflon and combinations thereof.

1 41. A filter element of claim 39 wherein the wrapped media comprises a material selected
2 from the group comprising spunbonded media and cloth.

1 42. A filter element of claim 34 further comprising a rigid support surrounding the filter
2 element.

1 43. A filter element of claim 42 wherein the rigid support comprises a mesh.

1 44. A filter element of claim 34 further comprising a top cap which covers the top of the
2 central core.

1 45. A method of filter fluids comprising the steps of:
2 flowing at least two fluids into a housing;
3 passing the fluids around a filter element partially surrounded by an a non-permeable
4 barrier at the lower end of the filter element;

- allowing the fluids to separate by gravity so that the lighter fluid can flow above the sleeve in the housing above the barrier;
- further passing the lighter fluid through a filter media;
- collecting the lighter fluid after passing through the filter element; and
- collecting the heavier fluid in the housing.

46. A method of filtering fluids of claim 45 wherein the fluid mixture contains solids and additionally filtering the solids by the filter element.

47. A method of filter fluids comprising the steps of:

- flowing at least two fluids into a housing;
- passing the fluids around a filter element partially surrounded by an a non-permeable barrier at the upper end of the filter element;
- allowing the fluids to separate by gravity so that the lighter fluid can flow above the sleeve in the housing adjacent to the barrier
- further passing the heavier fluid through a filter media;
- collecting the heavier fluid after passing through the filter element; and
- collecting the lighter fluid in the housing.

48. A method of filtering fluids of claim 47 wherein the fluid mixture contains solids and additionally filtering the solids by the filter element.